

# ***PUBLIC WORKS MONTHLY SUMMARY***

## **MAY 2009**

### **Engineering Division**

A new version of GeoDart, GeoDart 3 was recently rolled out to staff across the organization. The culmination of a joint, multi-year effort by Public Works Engineering and ISD, the release marks another milestone in the use of Geographic Information Systems (GIS) in the City. The GeoDart (Geographic Data Analysis and Retrieval Tool) software application provides a “one stop shopping center” for meeting City of Eugene staff’s GIS needs, and has been in use for over 17 years. Easy access to over 150 layers of geographic information are provided, along with customized tools for searching and displaying information. There are over 200 GeoDart users in the City with GIS skills ranging from novice to expert.

Like GeoDart 2, GeoDart 3 provides all of the features of ArcView, the underlying off-the-shelf software platform the application is built on. GeoDart 3 uses the most recent version of ArcView (9.3), providing the latest improved tools and technology from industry-standard software, along with a number of custom features designed to assist City users including:

- Menus that provide quick access to City and Regional GIS data layers.
- Search tools that locate and display specific geographical areas using addresses, street intersections, parks and other physical features.
- Tools that assist in production of printed or electronically published maps and mailing labels.
- Tools that load groups of layers and perform other functions specific to particular work flows.
- A ‘hot link’ feature that allows the user to view image files related to specific geographical features like deeds, plats, and engineering drawings.
- Direct links to the GIS User Guide which contains descriptions of City and Regional GIS data (MetaData).
- Integration with the Mailing Labels application first introduced with the CELID intranet mapping application.
- A comprehensive and user-friendly online help system with instructions, tips and examples.
- A multitude of additional and enhanced features built into the latest version of the ArcGIS Desktop (ArcView)

Design and implementation of the new application was accomplished with the assistance of staff from across the organization. The City-wide GIS Coordination group functioned as a stakeholder representative group and the GIS Technical Team served as a steering committee for the project. Two well-attended user design workshops provided valuable input to the project team, and beta testing of the application was provided by over 20 users city-wide. The core application project team included Barry Bogart, Mike Miller, Jagpal Notre, Rande Wilmarth, Carola Eklund, Jim Beasley and Fred McVey.

GIS data and application usage support is a key internal service provided by Public Works Engineering to the Department and the City organization as a whole. ISD also recognizes the value and importance of GIS and has developed expertise and dedicated resources to supporting GIS implementation. The City’s GIS Strategic Plan calls for developing and maintaining easy-to-use application tools to improve use of GIS technology within the organization. GeoDart 3 is a great example of the partnership between Engineering and ISD in implementing improved GIS applications and support within the City.

Release of the new version is using an incremental rollout approach - the current version of GeoDart (2) will continue to work and be supported for several months, so it is not required that users immediately switch to GeoDart 3. Users are encouraged to begin using GeoDart 3 after it is installed, but can start at a convenient time, and can

use both GeoDart versions 2 and 3 during a transition period if needed. While version 3 is fairly easy to use for current GeoDart users, training is being offered beginning in June for those who are interested or find a need after beginning use (refer to training announcements and sign up through your training contact). The application also has user-friendly and comprehensive online Help to assist with learning and transition.

For questions about the GeoDart 3 project and roll out please contact Fred McVey (5216); contact Jim Beasley (5266) about installation and Carola Eklund (5328) or Mike Miller (5248) with usage questions.



Fuji (Lloyd) Ngariki has completed his six-month career development with the Erosion Prevention & Construction Site Management program. He started in late November 2008 and returned to Maintenance after Memorial Day. Fuji's short time with the Engineering Division was extremely enjoyable. From day one of his career development he dove in head first and had a smile on his face every day. He will be missed! At least he didn't go too far away...

#### **Public Works Land Use Review: Referral Template Process Improvement**

Becky Taylor, Land Use Review and Survey Technician on Team Central, is managing a cross-departmental process improvement project for developing land use application referral templates.

#### **Background**

See attached link for more information.

#### **Current Objective**

The current downturn of land use applications has afforded Team Central with the opportunity to proactively undertake process mechanics. Since the beginning of the year, Becky has facilitated numerous stakeholder meetings with land use application review partners (i.e., staff representatives from the Planning Division, Land Use Management, Public Works Maintenance, Urban Forestry, PIC-Engineering, and Team Central) to refresh the collective memory about original agreements and to make new agreements to respond to current conditions.

#### **Process**

See attached link for more information.

**For more information, or to get involved**, contact Becky Taylor at 682-6004.



| Bid Name  | Bid Date  | Engineer's Estimate       | Apparent Low Bidder                  |
|---|-----------|---------------------------|--------------------------------------|
| 2009 PPP W 11th Ave, 6th and 7th Avenues                    | 5/27/2009 | \$850,000 - \$1,050,000   | Wildish Construction-\$789,585.00    |
| 2009 Wastewater Rehab Point Repairs at Various Locations    | 5/27/2009 | \$180,000 - \$240,000     | H & J Construction-\$296,677.00      |
| Crest Neighborhood Street Improvement Project               | 5/21/2009 | \$2,600,000 - \$3,100,000 | Babb Construction-\$2,120,407.20     |
| 2009 PPP Slurry Seals                                       | 5/19/2009 | \$375,000 - \$450,000     | Valley Slurry Seal-\$331,642.50      |
| Chad Drive Extension  | 5/19/2009 | \$1,000,000 - \$1,600,000 | Babb Construction-\$916,940.18       |
| 2009 PPP Bertelsen Rd, Seneca Rd, McKinley St               | 5/7/2009  | \$950,000 - \$1,500,000   | Wildish Construction-\$878,656.55    |
| Fire Station 8 Parking Lot Resurfacing at 500 Berntzen Road | 4/28/2009 | \$75,000 - \$125,000      | Scott Brown Construction-\$81,681.05 |
| Eugene Airport Rehab North Ramp at South Kilo               | 4/23/2009 | \$500,000 - \$600,000     | Wildish Construction-\$587,959.70    |
| PBM Bailey Hill Rd from W 18th Ave to Bertelsen Rd          | 4/7/2009  | \$1,000,000 - \$1,400,000 | Egge Sand & Gravel-\$930,287.95      |

## Wastewater Division

### Plant Operation

Treatment met permit requirements for all parameters. Average daily flow was 35 million gallons per day.

Several process tanks were rotated off line for preventative maintenance to be preformed. It was necessary to get many of these activities out of the way so process tank adjustment could be made to accommodate the construction contractors.

The activated sludge process is working well and producing effluent numbers within the more stringent dry weather permit season. June will bring some challenges when the half of the modified aeration system will be turned back over to the contractors to finish the capital improvement project.

The engine generator major rebuild was completed and the system was put back on line May 14. After some break in adjustments and oil change, the engine is running steady and producing the designed 800 KWH. The engine generator operates on digester gas produced on site as a byproduct of the anaerobic digestion process.

### Pump Stations

#### Piper Pump Station Rebuild Complete

All work involving the Piper Pump Station rebuild has been completed. The station is now fully operational with telemetry in place and communicating with the DCS system located at the wastewater treatment plant. We had some issues with the wetwell level sensors which the electrical and instrumentation crew did trouble shooting, identified the problem and made the needed modifications to the system.

#### Lynnbrook Pump Station Rebuild

Work has begun on the rebuild of the Lynnbrook pump station. New pumps are being installed along with controller upgrades and the installation of new VFD's to allow for better starts and less plugging of the pumps.

## **Equipment Maintenance**

### Engine Generator Up and Running

The Jenbacher Engine Generator is up and running and producing 800KW of power. The commissioning of the engine generator took longer than anticipated due to computer software and starting system upgrades. Once these issues were resolved the engine was started and began producing 800KW of power and the engine is running very smoothly with no unplanned shut downs to date. We have performed the initial break-in service and all has checked out well.

### Electrical & Instrumentation

Electrical and Instrument staff worked on numerous small projects and preventive maintenance. Electricians started the Lynnbrook pump station retrofit project. This project will convert single-phase power to three-phase power, via two new Allen-Bradley variable frequency drives, to run two new three-phase Flygt pumps, a significant reliability improvement over the current single-phase pumps. Time was also spent continuing to chase Profibus and other CIP issues. Significant progress was made in eliminating Profibus system failures with the help of Ron Mitchell from RC Systems; the person who literally wrote the book on Profibus who was brought in by MWMC to assist. Work continues on program upgrades and installation at several West Eugene pump stations.

## **Residuals**

### Biocycle Farm

It was a busy month on the farm.

Pruning of Management Unit 2 (MU2), 122-acres of two year old hybrid poplar trees, began this month. This is the first pruning of this unit, with the intention of enhancing the marketability of future hardwood logs and to improve our ability to implement site operation and maintenance activities.



### Biosolids Management Facility

The second of the four planned lagoon re-lining projects is now in progress. Residuals staff has finished the dredging portion of the job, getting much of the easily recoverable solids out of the lagoon. Now we're ready for the sunshine to do its work and dry the remaining solids that have been left on the floor of the lagoon.

Bids for the construction work will be going out shortly with a completion date expected by early fall.

## **Projects/CIP**

### Aeration Basins – Phase I Project

Operation of all four modified aeration basins (3, 4, 7, 8) is going well. One June 15, the contractor, 2G Construction, will be re-entering basins 7 & 8 to perform some additional modifications that were made on basins 3 & 4 to mitigate foam trapping problems. Also, a large butterfly gate will be installed in the south mixed liquor channel to improve process flexibility. After this work, final punch-list items will be corrected, and complete operation and maintenance binders will be delivered to the plant.

### Influent Pumping and Pretreatment Expansion Project

Structural work on the new headworks building and new diversion structures are continuing to progress. The bottom of the caisson for the new influent pump station has also been completed. New equipment and plenty of new piping have been installed in the solids building as well.

Off site, exploratory potholing work was completed at the Irvington pig vault / Terry Street force main area, and the West Irwin pump station. Two variable frequency drives for pumps at the Willakenzie pump station have been replaced. Also at Willakenzie, work has begun on a new 36" bypass line connecting the two influent lines into the station (78" East Bank Interceptor, and 42" gravity line). This improvement will allow greater flexibility and efficient operation of the pump station.



Irrigation of recycled water on Bio-cycle Farm has also resumed. It's anticipated that during the early stages of irrigation this season we'll be averaging about 1.2 million gallons per day of irrigation on the site.

Vegetation control has been a priority this month as it's been great weather for grass to grow. With grass growing between the tree rows to control weed growth, we have approximately 250-miles of grass rows to cut.



MU 3, comprised of 116-acres, with the initial planting completed they are off to a healthy start. Growing about 8-inches so far.

#### Peak Flow Management Project

Major effort has taken place to build the new diversion channels in aeration basin 5. Also, the large steel pipes (96" and 84") necking up into the basin, have also been installed and recoated. Some additional 12" storm piping has been installed to correct a slope and alignment problem as it entered the new contact basin. As more piping is laid around the new contact basin, it is being backfilled to minimize safety risk to contractor and plant staff.

#### Sodium Hypochlorite Conversion Project

The original chlorine scrubber, located in the building, has been removed and disposed of to make space for the new tanks. The foundations and piping for the new hypochlorite pump room and tank farm have been constructed. The architect approved a change in color (to gray) for the exterior wall of the new pump room because the original didn't quite match the existing brick.

The addition of a new boat waste discharge point and ADA ramp, at the RV dump station is almost complete.

#### Odor Control Project

Hyland construction has mobilized on site and has begun site preparation for the new odorous air ducting. They will be stating work in primary clarifier #1 to form the additional structural supports for the new solid covers. Also, they plan to take advantage of crew availability and start re-grouting the floor of secondary clarifiers #1 & 5.

#### Tertiary Filtering Project

The final preliminary design workshop was completed, which helped select the layout and operational flexibility we wanted out of the filters.

#### FSL #3 Liner Project

Design of relining facultative sludge lagoon #3 is complete, and has gone out to bid. A mandatory pre-bid meeting is scheduled for June 4.

#### **Industrial Source Control/Laboratory**

The industrial source control program final audit report was delivered this month. Outside independent auditors spent a couple of days looking at files and program documents. There were no significant or major findings and just a few minor or administrative findings from this audit. We did well, and the auditors seemed very impressed with our program.

#### **Stores**

##### Automated Chemistry Analyzer

We received 5 proposals for this Analyzer. We are now in the evaluation phase.

##### Uninterrupted Power Supply

We received 5 quotes from this solicitation. The low quote is \$15,650.





Car wash season is here. Kits containing the equipment shown are checked out to interested parties to create a fish friendly car wash by blocking the stormwater drain and pumping the sudsy material into the sanitary sewer.

## Airport Division



### Construction Update

Phase one of this spring's terminal ramp rehab project is framed and ready for concrete to pour in early June. The concrete will need to cure for a couple weeks after it is poured. This project, estimated to run \$970,000, is set to be completed by late summer.

Construction crews are also gearing up for rehabilitation of the north ramp/Kilo area. This is a \$580,000 project. Both construction contracts were awarded to Wildish.

### New Security Badge Requirements

May kicked off new security badge requirements by Airport Operations for airport users. The mandate by the Transportation Security Administration means hundreds of employees, tenants, vendors, and construction crews must be rebadged. As a result, about 200 new badge applications were processed in May.

Also in the month of May, Airport Operations trained about 350 Airport users responsible as Signatory Authorities for badge approvals, also mandated by the TSA.

### 747-400 Visits EUG

Several large aircraft paid a visit to EUG in early May. The charter flights for the Oregon Army National Guard included three 737's and one 747-400. Special alterations had to be made to the main runway to accommodate the 747-400, including removing some of the lighting so it would not be damaged during take-off.



### Swine Flu Precautions

With the outbreak of swine flu in May, the Eugene Airport installed in the terminal hand sanitizing stations and sanitizing wipe stations for the bag carts. This was done as a courtesy for passengers and other guests at the terminal.

While the outbreak turned out to be mild and short-lived, it was a good exercise in how Airport staff should respond during a pandemic health event.

## Parks & Open Space Division



An estimated five thousand board feet of lumber was milled from the fir trees that were removed in the Oak Knoll Restoration project in Hendricks Park. Splinters, a local volunteer group, will be using this lumber to construct Civilian Conservation Corps-inspired picnic tables for use in the Hendricks Park shelter. Parks and Open Space staff will use the remaining lumber throughout the park system for picnic table repairs.

Irrigation systems throughout the park system have been activated and are being operated through the Maxi-Com program. Maxi-Com is a program that gathers information from weather stations installed around the city. The information gathered from the weather stations is computed to establish an evaporation-

transpiration value that tells the computer exactly how much water needs to be applied on any given site to maintain healthy landscapes without over-watering.

Parks and Open Space was awarded \$63,450 in funding from the Oregon Youth Conservation Corps' Oregon Youth Employment Initiative. Two crews of six youth will be hired to conduct riparian enhancement, trail maintenance/construction in the Ridgeline Park system, and invasive species removal. This granting opportunity is made available through the Federal American Recovery and Reinvestment Act of 2009.

The City also received great news about two collaborative projects involving the U.S. Army Corps of Engineers. First, the Delta Ponds project has been allocated \$2.337 million of stimulus funds. The first priority for this funding is to design and install a fish-friendly culvert under Goodpasture Island Road. Second, the Metro Waterways Study will receive \$438,000 in stimulus funds. This funding will be used to complete the programmatic Environmental Assessment for potential multi-objective improvements in Eugene's Amazon planning area and Springfield's Cedar Creek planning area.

The Spring 2009 edition of Eugene Outdoors was mailed to Eugene area residents on May 1. The mailing included 75,880 pieces. Immediately following the mailing, nearly 3,000 additional copies are provided by staff to area businesses, visitor and welcome centers, community centers, local media outlets, and local City partner organizations.





skatersforEugene skateparks presents

# ART SHOW! SILENT AUCTION

custom, original  
artwork skate decks  
by community and  
regional artists,  
photography, painting,  
sculpture and other  
mixed media art work

live music and dj  
ninkasi beer available  
no cover



first friday  
art walk **june 5<sup>th</sup> 2009**

790 willamette street (8<sup>th</sup> and willamette)  
friday, june 5<sup>th</sup>, 5:30-11:00pm - auction & entertainment  
saturday, june 6<sup>th</sup>, 12:00-4:00pm - gallery open

all proceeds go to the construction of the new downtown skate park  
for more information, please visit [skateeugene.org](http://skateeugene.org)



City Center Skatepark Progress: The Purchasing Division received five responsive proposals from the RFP solicitation for a Design/Build Contractor for the City Center Skatepark. The proposals are under active review by the selection committee made up of ten community members and two City Staff. The five proposals will be narrowed to two for interviews which will take place the week of June 8th. Parks Planning hopes to have a contractor on board by mid-June.

In the meantime, fundraising efforts are getting well underway and will kickoff in a big way with an art show and auction on June 5<sup>th</sup> and 6<sup>th</sup> at 790 Willamette Street. In addition to skate-inspired artwork by local artists, there will be food, beverage and music.



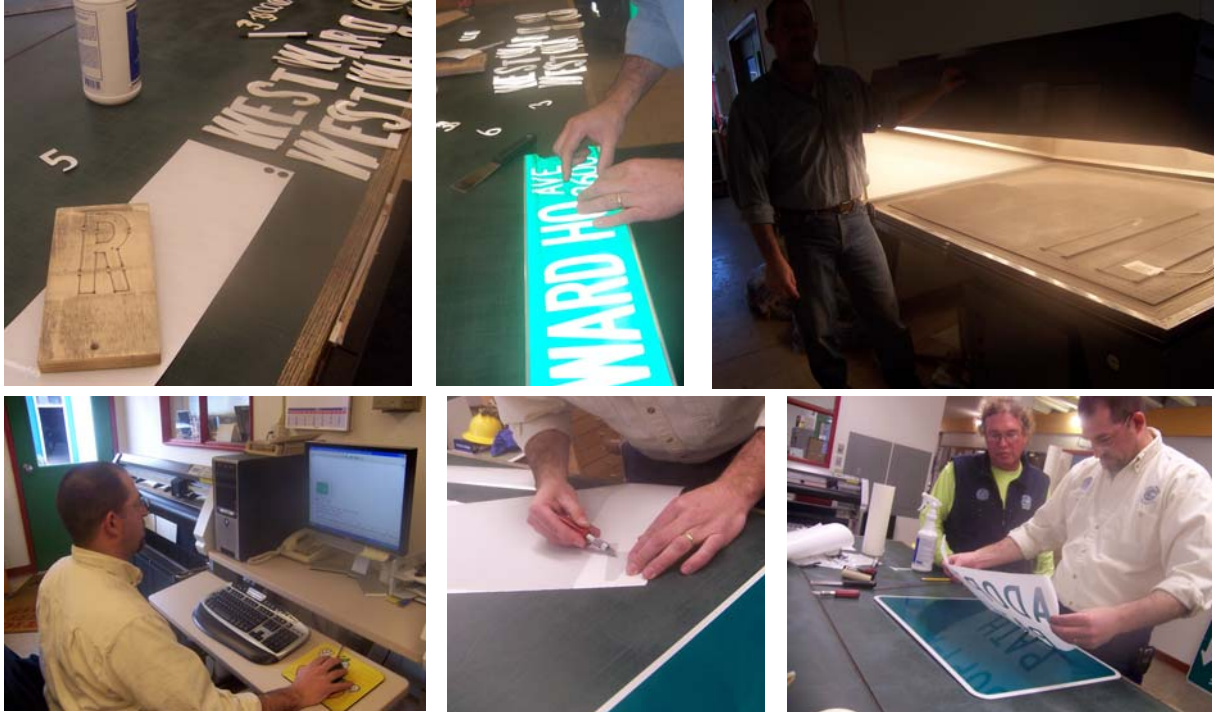
# Maintenance Division

## Traffic Maintenance Team Transitions to New Tech

Two national trends are affecting sign operations. First, the standard sign material has been phased out by the manufacturer. Second, as the driver population ages, the latest version of the Manual of Uniform Traffic Control Devices (MUTCD) has increased the minimum size of lettering for signs on many roads and has increased the standards for retro-reflectivity of signs. New technology is federally required to be in place by 2011. With new technology, six-inch letters are cut by an in-house printer and pressure-applied. Using the previous technology, the background and four-inch stencil-cut lettering were fixed to a sign blank using the heat in a 300°F oven. The change in lettering and blank size will require Traffic Maintenance to replace many street name signs and the mounting hardware. Larger, heavier mounting hardware requires a metal sign post, and many existing sign posts are wooden.

In order to keep up with new federal standards, Traffic Maintenance has purchased new sign making equipment and is transitioning to the new retro-reflective materials. When Traffic Maintenance determines during Night Sign Investigation (NSI) that a sign is no longer sufficiently reflective, the sign is replaced using the new technology. “Stop” and “One Way” signs are the first to undergo a blanket update to the new, retro-reflective technology. Traffic Maintenance uses a list of oldest to newest to replace the oldest signs first. Street name sign replacement is also beginning to transition to the new technology.

During the annual inspection of regulatory signage, during the fall of 2008, Traffic Maintenance included a review of street name signs. About 1,400 street name signs were identified as missing (some reported missing, others not), faded, damaged or otherwise in need of maintenance or replacement. For the next several years the team will replace street name signs as they go missing or reach the end of their service life with MUTCD-mandated upgrades in size and materials as appropriate.



Top: Four-inch lettering is cut out; lettering is placed onto a sign blank with the background color previously adhered to it; the sign is placed under 300°F heat for four minutes to adhere the lettering.

Bottom: A sign is designed on a computer using MUTCD standards then printed; excess material is removed from the lettering; the lettering will be applied to the retro-reflective blank using a brayer.